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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,812	03/28/2006	Masahiro Oshikiri	L9289.06129	7680

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EXAMINER

ABEBE, DANIEL DEMELASH

ART UNIT	PAPER NUMBER
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2626

MAIL DATE	DELIVERY MODE
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02/06/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/573,812	Applicant(s) OSHIKIRI, MASAHIRO	
	Examiner Daniel D. Abebe	Art Unit 2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-35 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 18-35 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Information Disclosure Statement

The information disclosure statement filed 3/28/2006 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 18-35 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 18-32 recite a coding and decoding apparatus having the sampling rate conversion apparatus comprising the recited sections. The specification indicates that the claimed invention can be implemented by software. More particularly, the specification on Par.0176 reads

“the case where the present invention is constructed by hardware has been explained as an example but the present invention can also be realized by software.”

Thus reading claims 18-32 in light of the specification, the claimed apparatuses as claimed, encompass the software embodiment of the invention for realizing the invention.

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The claims are non statutory because computer programs are not patentable subject matter under 35 U.S.C. 101 as they do not fall into one of the four categories of statutory subject matter, i.e., process, machine, manufacture or composition of matter therefore.

With respect to claims 33-35, the claims are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. Supreme Court precedent¹ and recent Federal Circuit decisions² indicate that a statutory “process” under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing. While the instant claims recite a series of steps or acts to be performed, the claims neither transform underlying subject matter nor positively tie to another statutory category that accomplishes the claimed steps, and therefore do not qualify as a statutory process.

the claimed process for converting a sampling rate comprising the recited series of steps could be reasonably interpreted as steps to be performed without use of machine or tangible device especially in light of the specification where it is disclosed that the invention could be implemented by software as pointed above..

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

¹ *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).

² *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

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A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 18-21, 24-25, 33 and 34 are rejected under 35 U.S.C. 102(e) as being anticipated by Malah et al. (2003/0093279).

As to claim 33, Malah teaches a sampling rate conversion method comprising:

a step of obtaining spectrum envelopes from a time domain of narrow band signal having a low sampling rate, through a time domain to frequency domain conversion;

and a step of determining the bandwidth of an extended spectrum (high-band spectrum) which is summed to said spectrum of the narrow band signal to extend its bandwidth in accordance to the desired higher output sampling rate, thereby producing a wide-band signal (Fig.4; Pars.0025, 0031, 0033, 0071-0072; claim 10).

As to claim 34, Malah teaches a coding method comprising:

a step of obtaining spectrum envelopes from a time domain of narrow band signal having a low sampling rate, through a time domain to frequency domain conversion;

and a step of determining the bandwidth of an extended spectrum (high-band spectrum) which is summed to said spectrum of the narrow band signal to extend its bandwidth in accordance to the desired higher output sampling rate, thereby producing a wide-band signal; and

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encoding said spectrum and said extended spectrum (Fig.4; Pars.0025, 0031, 0033, claim 10).

obtaining spectrum envelopes from a time domain of narrow band signal having a low sampling rate, through a time domain to frequency domain conversion; and

determining the bandwidth of an extended spectrum (high-band spectrum) which is summed to said spectrum of the narrow band signal to extend its bandwidth in accordance to the desired higher output sampling rate, thereby producing a wide-band signal;

and synthesizing the encoded audio data by from both the narrow and the extended spectrum (Fig.8; Par.0034-0035).

As to claim 18, Malah teaches a sampling rate conversion apparatus comprising:

a conversion section to obtain spectrum envelopes from a time domain of narrow band signal having a low sampling rate, through a time domain to frequency domain conversion;

a determining section for determining the bandwidth of an extended spectrum (high-band spectrum) which is summed to said spectrum of the narrow band signal to extend its bandwidth in accordance to the desired higher output sampling rate, thereby producing a wide-band signal (Fig.8).

As to claim 19, Malah teaches where the obtained spectrums are directly related the sampling rate of the signal (Fig.17) thereby suggesting that extending the spectrum of the low frequency band signal is equivalent to up-sampling the signal in its original form.

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As to claim 20, Malah teaches a coding apparatus comprising:

a conversion section to obtain spectrum envelopes from a time domain of narrow band signal having a low sampling rate, through a time domain to frequency domain conversion;

a determining section for determining the bandwidth of an extended spectrum (high-band spectrum) which is summed to said spectrum of the narrow band signal to extend its bandwidth in accordance to the desired higher output sampling rate, thereby producing a wide-band signal; and

encoding/parameterizing said spectrum and said extended spectrum (Fig.4-8; Pars.0025, 0031, 0033, claim 10).

As to claim 21, Malah teaches where the extended spectrum are generated from the narrow band spectrum (Fig.8).

With respect to claims 24-25, the base station and communication apparatus are inherent in Malah's teaching.

Allowable Subject Matter

Claims 23, 26-32 and 35 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: claim 23 is allowable over Malah, because Malah doesn't teach using two coding section for encoding input signal into a first and second band signal and converting the second band signal sampling rate as recited in the claim.

Claims 26-32 and 35 are allowable over Malah because Malah doesn't teach where the spectrum extension is performed by a decoder including the steps as recited in the claims.

Claim Objections

Claim 22 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Malah alone or in combination with prior arts of record fail to teach where the extended spectrum are divided into two or more subbands and perform encoding in subband units.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel D. Abebe whose telephone number is 571-272-7615. The examiner can normally be reached on monday-friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on 571-272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Daniel D Abebe/
Primary Examiner, Art Unit 2626